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Guaranteeing data availability and consistency: data transfer operation for CMS

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Abstract

The multi-tiered computing infrastructure of the CMS experiment at the LHC relies on the reliable and fast transfer of data between the different CMS computing sites. Data has to be transferred from the Tier-0 to the Tier-1 sites for archival in a timely manner to avoid overflowing disk buffers at CERN. Data has to be transferred in bursts to all Tier-2 level sites for analysis as well as synchronized between the different Tier-1 sites. The data transfer system is the key ingredient which enables the optimal usage of all distributed resources. The operation of the transfer system consists of monitoring and debugging of transfer issues. In this talk, we present the operational procedures developed to guarantee a timely delivery of data to all corners of the CMS computing infrastructure. Further task of transfer operation is to guarantee the consistency of the data at all sites, both on disk and on tape. Procedures to verify the consistency and to debug and repair problems will be discussed. The 2010 data taking period will be summarized from the point of view of transfer operations and lessons will be drawn for future data taking periods.

Files

Bibliography

CMS groups

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